

windows, balloon help messages, task bars or embedded frames inside a current web page.

86. (Currently Amended) The system of claim 1, further comprising\_\_a client side software installable to a user's computer, the software operable to detect users activity of accessing a resource and connecting to the virtual community based on the accessed resource.

101. (Currently Amended) The system of claim 99, wherein the client side software resides in the software resource to provide new functions, features, services and applications.

### Remarks

This amendment is in response to the Office Action mailed October 17, 2007. Accompanying this response is a petition for a one month extension of time and the appropriate fee of \$60 for small entity pursuant to 37 CFR 1.17(b) and 37 CFR 1.136(a).

For the purpose of clarify, here are the claims 1, 60 and 73 after amendments:

Claim 1 [AMENDED]

A virtual community system over a plurality of users and a plurality of resources accessible by said plurality of users comprising of:

\_\_\_\_\_ a server operable to monitor each of said plurality of users accessing said plurality of resources;

\_\_\_\_\_ and said server operable to associate each of said plurality of resources accessed by each of said user to said each user;

\_\_\_\_\_ and said server operable to form a dynamic community for each of said plurality of resources; said community comprising each of said plurality of users who is accessing the same said each of plurality of resources;

\_\_\_\_\_ [ORIGINAL]

\_\_\_\_\_ A system of resource-based virtual communities comprising:

~~\_\_\_\_\_ a community server operable to manage a plurality of resource-based virtual communities associated with each of a plurality of accessed resources, and operable to connect ones of the plurality of users to the resource-based virtual community associated with the accessed resource when they access the resource.~~

Claim 60 [AMENDED]

\_\_\_\_\_ A universal virtual communities system over a plurality of users and a plurality of resources accessible by said plurality of users comprising of:

\_\_\_\_\_ a plurality of virtual community areas; where each of said plurality of resources is mapped to one said plurality of virtual community areas by a uniform resource locator (URL) and each of said plurality of virtual community areas contains community and user accessing information for said mapped resource;

\_\_\_\_\_ a user access database containing resource accessing record from each of said plurality of users to each of said plurality of resources;

\_\_\_\_\_ a universal virtual community server operable to monitor every access from each of said plurality of users to each of said plurality of resources and then performs additional functions of:

\_\_\_\_\_ storing said access to said user access database;

\_\_\_\_\_ mapping said accessed resource to said virtual community area by said uniform resource locator (URL);

\_\_\_\_\_ updating said virtual community area with said access from said user to said resource;

~~\_\_\_\_\_ [ORIGINAL]~~

~~\_\_\_\_\_ A global universal virtual community server system for mapping each of a plurality of resources to a virtual community area by resource URL comprising:~~

~~\_\_\_\_\_ a global universal virtual community server including the plurality of virtual community areas, each of a plurality of resources mapped to a virtual community area; and~~

~~\_\_\_\_\_ a global user database within the global universal virtual community server that holds all user information for users accessing any of the plurality of resources, including a user IP address or email address, the virtual community areas holding community information, data and links related to each of the users in the global user database.~~

Claim 73 [AMENDED]

\_\_\_\_\_ A method of forming virtual community in a system with a plurality of users and a plurality of resources, the method comprising the steps of:

\_\_\_\_\_ each of said plurality of users accesses said plurality of resources;

\_\_\_\_\_ a server monitors each of said plurality of users accessing said plurality of resources;

said server associates each of said plurality of resources accessed by each of said plurality of users to said each user;

and said server forms a dynamic community for each of said plurality of resources, said community comprising of each of said plurality of users who is accessing the same said each of plurality of resources;

—— [ORIGINAL]

—— A method of forming resource-based virtual communities comprising the steps of:  
—— providing a community server operable to manage a plurality of resource-based virtual communities associated with each of a plurality of accessed resources;  
—— each of a plurality of users accessing the resources; and  
—— each of the plurality of users connecting to the resource-based virtual community associated with the accessed resource.

### ***Claim Rejections 35 USC § 101***

Claims 1-30 and 84-101 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

*"The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material per se.*

*Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are non-statutory when claimed as descriptive material per se, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized.*

*Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)"*

Claims 1 (independent claims) have thus been amended to make it statutory subject matter.

Claim 1 has been amended so it refers to a concrete network server system and includes concrete acts or steps on how the virtual community system is formed. Claims 2-30, 84-101 are dependent upon claim 1 and they are now referring statutory subject matter too. This way, the claims, as amended, therefore appears to overcome any non-statutory subject matter and withdrawal of the rejection of claims 1-30 and 84-101 under 35 USC 101 is requested.

### ***Claim Objections***

Examiner points out in the Objections,

*"Claims 1 and 86 are objected to because of the following informalities:*

*a. As per claim 1: "ones of the plurality of users" should be "one of the plurality of users".*

*b. As per claim 60, line 3: "URL" should be "uniform resource locator (URL)". Please note that other acronyms appear in the claims and should likewise be corrected as necessary.*

*c. As per claim 83, line 2: "non-disrubutive" should be "non-distributive".*

*d. As per claim 86: "comprisinga" should be "comprising a".*

*e. As per claim 101, lines 2-3: "software resides the software resource" should be "software resides in the software resource".*

*Appropriate correction is required."*

The claims mentioned above have been amended and thus the withdrawal of the objections on claims 1 and 86 is respectfully requested.

*Specification needs correction as "The abstract of the disclosure is objected to because it exceeds the limit of 150 words. Correction is required. See MPEP § 608.01(b)."*

After amendment, the total number of words is 143 and the requirement is thus satisfied.

***Claim Rejections - 35 USC 112***

*Claims 1-6, 11-14, 16, 18-19, 25, 27, 29, 67, 70, 73-75, 78, 80-82, 85, 93 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.*

Claim 1, 60 and 73 are independent claims and have been amended to be definite. Claims mentioned above are dependent claims dependent upon claims 1, 60 or 73 and become definite with the amendment and thus the withdrawal of the objections on claims 1-6, 11-14, 16, 18-19, 25, 27, 29, 67, 70, 73-75, 78, 80-82, 85, 93 is respectfully requested.

## **Claim Rejections - 35 USC 102**

*Claims 1-10, 15-19, 22, 25-28, 73-81 are rejected under 35 U.S.C. 102(b) as being anticipated by Pearlman et al. ('Pearlman' hereinafter) ("A community authorization service for group collaboration" by Pearlman, L., Welch, V., Foster, I., Kesselman, C. and Tuecke, S.; Policies for Distributed Systems and Networks, 2002. Proceedings Third International Workshop on 5-7 June 2002; Page(s): 50 - 59).*

*As per claim 1, Pearlman teaches*

*A system of resource based virtual communities comprising: (see abstract)  
a community server operable to manage a plurality of resource based  
virtual communities associated with each of a plurality of accessed resources,  
(communities with resources, section I)*

*and operable to connect ones of the plurality of users to the resource  
based virtual community associated with the accessed resource when they  
access the resource. (individuals using resources, section I)*

Claim 1, as amended, shows detailed steps of how the community for a particular resource is formed in a virtual community system.

With amendment of claim 1, the scope and concept of virtual community used in this patent application differs from virtual communities or virtual organizations referred by Pearlman in "A community authorization service for group collaboration".

In "A community authorization service for group collaboration" by Pearlman et al, Pearlman proposed *a new approach to the representation, maintenance, and enforcement of such policies that provides a scalable mechanism for specifying and enforcing these policies in "Grids" and "collaboratories,"* where we find *distributed communities of resource providers*

*and resource consumers, within which often complex and dynamic policies govern who can use which resources for which purpose.*

Pearlman also mentioned that the Grid computing is about *"the sharing and coordinated use of resources within large, dynamic, multi-institutional communities"* (section I), and also *"this sharing may involve not only file exchange but also direct access to computers, software, data, and other resources, as is required by a range of collaborative problem-solving and resource-brokering strategies emerging in industry, science, and engineering. This sharing is, necessarily, highly controlled, with resource providers and consumers defining clearly and carefully just what is shared, who is allowed to share, and the conditions under which sharing occurs."* (section I).

In Grid computing and Pearlman's paper, virtual community is also referred as virtual organization where resources among multiple domains can be accessed or shared across local resource domains. In its reference [1], Foster, I., C. Kesselman, and S. Tuecke, *The Anatomy of the Grid: Enabling Scalable Virtual Organizations. International Journal of High Performance, Computing Applications*, 2001. 15(3): p. 200-222. gives more detailed description of virtual organizations – *Flexible, secure, coordinated resource sharing among dynamic collections of individuals, institutions, and resources—what we refer to as virtual organizations.*

The real and specific problem that underlies the Grid concept is *coordinated resource sharing and problem solving in dynamic, multi-institutional virtual organizations.* The sharing that we are concerned with is not primarily file exchange but rather direct access to computers, software, data, and other resources, as is required by a range of collaborative problem-solving and resource brokering strategies emerging in industry, science, and engineering. *This sharing is, necessarily, highly controlled, with resource providers and consumers defining clearly and carefully just what is shared, who is allowed to*

*share, and the conditions under which sharing occurs. A set of individuals and/or institutions defined by such sharing rules form what we call a virtual organization (VO).*

*Grid environment is created to address resource needs. The use of that resource(s) (eg. CPU cycles, disk storage, data, software programs, peripherals) is usually characterized by its availability outside of the context of the local administrative domain. This 'external provisioning' approach entails creating a new administrative domain referred to as a Virtual Organization (VO) with a distinct and separate set of administrative policies (home administration policies plus external resource administrative policies equals the VO (aka your Grid) administrative policies).*

Virtual Communities in our patent application differs from virtual organizations in the following: purpose, premise, functionality and creation and lifecycle.

The characteristics of Virtual Organization is new Virtual communities (virtual organization) in the scope of Grid computing are created to break boundary of normal resource access domains, it composes of resource providers.

First, the purpose of our resource based community differs significantly from virtual organizations (VO) in Grid Computing. VO in grid computing is a new administrative domain and to be used to coordinate resource access and administrative policies. While our community based on resource accessing is not to administrate resource access rights or policies. Instead virtual communities based on each resource is created to provide another layer for users to communicate based on some common interests. In addition, VOs in Grid computing enable disparate groups of organizations and/or individuals to share resources in a controlled fashion, so that members may collaborate to achieve a



shared goal. Our community based on resource usage or access does not have such purpose.

Second, the premise or conditions upon which of VOs and our communities are different. VOs are based on resource sharing and it requires that in a Grid. Every resource provides some kind of service that can be shared by others. And VOs are formed to coordinate such sharing. In our community, we do not care about whether the resource is shared or private, as long as there is a meaning for community servers to know that a user has accessed a resource.

Third, there are differences in functionality between VOs and our communities. In our system, the user accessing the resource is controlled by its original (own) resource management which is not part of the virtual community system. In Grid, a user accessing a resource is governed by the rules defined in the virtual organization. VOs in Grid computing form a part of policy network among resources providers and resource consumers. That policy network defines resource sharing and accessing rules and controls who can access which resource and how to access it. Communities in my patent application can be viewed as independent of the resources being accessed. It does not try to control who can use which resource and which resource can be shared or how to share it. It monitors when a user accesses one of the resources and then joins that user into a community comprising of all users who are also using the same resource, and enables that user to connect to other users in that community.

Fourth, VOs in Grid computing are typically formed beforehand so as to apply the resource access policies before the resource can be shared or accessed. While our virtual communities are dynamically generated upon user access to each resource. In Grid, even if there are multiple resources and users, there could be only a few VOs that governing the sharing of the resource providers among resource consumers. While in our community, each resource can form a community composing of all users using that resource.

Fifth, as VOs in Grid computing are used to govern resource policies, they typically last along with the resource and its membership is relatively stable, just similar to a typical authentication system. While in our system, when different users accessing (or using) different resources in different time, the communities on each resource usage are also constantly changing. At any given time the number of communities a user belongs to depends on how many resources a user has accessed or is accessing. Similarly, number of community members corresponding to any resource also depends on how many are using that resource.

In Pearlman's article, the access and permission of the resource are managed by the VO, or the community server - *"The CAS server contains entries for CAs, users, servers and resources that comprise the community and groups that organize these entries. It also contains policy statements that specify who (which user or group) has the permission, which resource or resource group the permission is granted on, and what permission is granted."* (section 3). While in this invention, the community server does not provide authorization or permission management to the users accessing the resources. Instead, it just monitors the result of the users accessing each of the resource and take actions as a result of such access - by creating a virtual community based on all users accessing the same resource.

Furthermore, Pearlman does not teach how to form a community based upon users accessing a resource. Pearlman does teach a way of adding users in *"A new ESG user needing access to the client data needs only to go to the ESG CAS administrator to obtain the needed rights. The CAS administration simply adds the user to the CAS database, putting them in the groups appropriate to the ESG community policy"* (Section 6). In Pearlman's system, the server adds a user to the CAS database because the server is managing the accessing rights of the user accessing the system. This differs from our system while the

community server does not manage the rights and permission of a user accessing a resource. Those accessing rights or permissions are provided either by the resource owner or by the original system.

In view of these reasons, withdrawal of the rejection of claim 1 as anticipated by Pearlman appears in order and is respectfully requested.

Claim 73 rejection states:

*As per claim 73, Pearlman teaches A method of forming resource based virtual communities comprising the steps of: (see abstract)*

*providing a community server operable to manage a plurality of resource based virtual communities associated with each of a plurality of accessed resources; (communities with resources, section 1)*

*each of a plurality of users accessing the resources; (consumers using resources, section 1)*

*and each of the plurality of users connecting to the resource based virtual community associated with the accessed resource. (virtual organization using resource, section 1)*

Claim 73 has been amended in a similar way to Claim 1 and the similar analysis pertaining to Claim 1 can also be applied to the amended claim 73. Thus withdrawal of the rejection of claim 73 as anticipated by Pearlman appears in order and is respectfully requested.

Claim 60 rejection states:

*As per claim 60, Pearlman teaches*

*A global universal virtual community sewer system for mapping each of a plurality of resources to a virtual community area by resource URL comprising: (see abstract)*

*a global universal community sewer including the plurality of virtual community areas, each of a plurality of resource mapped to a virtual community area; (communities with resources, section 1)*

*and a global user database within the global universal virtual community sewer that holds all user information for users accessing any of the plurality of resources the virtual community areas holding community information, data and links related to each of the users in the global user database. (community authorization service, section 1)*

*Pearlman does not explicitly indicate "including a user IP address or email address".*

*However, Matthews discloses "including a user IP address or email address" (email, paragraph [0057]).*

*It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Pearlman and Matthews because using the steps of "including a user IP address or email address" would have given those skilled in the art the tools to improve the invention by enhancing interaction between community members. This gives the user the advantage of having a channel for communication between members available.*

United States Patent Application 20030050986 by Matthews, Charles R. ; et al. discussed "System and method for community interfaces" in which Systems and methods are configured for providing enhanced functionality for communication between members of a community and/or groups within the community. A member of a community may access a web page. The web page may be customizable for the member. The web page may assist the member in subscribing to groups associated with the community. Subscription to a group automatically populates the member's personal calendar with events from the group's calendar. Subscription to a group automatically causes group email messages to be sent to the member. Subscription to a group automatically causes group alert messages to be sent to the member. These alerts may be displayed on the web page.

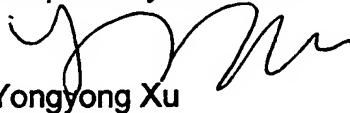
Claim 60 has been amended. It now differs from Pearlman's invention in similar way as described in above argument. In addition, Matthews's patent application is a method for populating a personal calendar with group events based on subscription to a group. It does not contain steps of forming a dynamic community based on users accessing a resource. Thus withdrawal of the rejection of claim 60 as anticipated by Pearlman Matthews appears in order and is respectfully requested.

Other Claims are dependent claims to Claim 1, 60 and 73 and remains. However, since Claims 1, 60 and 73 has been amended; thus, withdrawal of the rejection of other claim 60 as anticipated by Pearlman appears in order and is respectfully requested.

### **Conclusion**

In view of the above reasons, it is submitted that claims 1-73 are allowable and applicant respectfully request an early notice to such effect. The applicant thanks very much for the work of the examiner during the phone interview, especially to much of the correction and recommendations on applicant's lack of patent practice or skills since the applicant is filing by individual inventor. The applicant would also greatly appreciate if the respectful examiner could tell if there is any points in the patent applications contain patentable or allowable points in the office action even though there are further rejections on those amended claims.

Respectfully submitted,



Yongyong Xu

408-215-8485

[yongyongxu@yahoo.com](mailto:yongyongxu@yahoo.com)